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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/520,164	03/07/2000	Shigetaka Kuroda	000255	9586

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EXAMINER
CUEVAS, PEDRO J

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/520,164	KURODA ET AL.	
	Examiner	Art Unit	
	Pedro J. Cuevas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2 and 3* is/are allowed.

6)☒ Claim(s) *1,4 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application No. 0 072 997 A2 to Katayose et al. in view of U.S. Patent No. 6,307,276 to Bader.

Katayose et al. clearly teaches the construction of an engine control apparatus comprising:

a brake booster (600);

pressure detectors (610, 650);

a throttle-opening-state detector (10); and

an engine-operation enable/disable determining device (41).

However, it fails to disclose a battery remaining charge computing means for computing battery remaining charge of the electric motor.

Bader teach the use of a means for obtaining the amount of battery charge for the purpose of providing a method for automatically controlling a parallel hybrid drive, in which the power of an internal combustion engine is supplied in three different ways as a function of current driving parameters; in particular the power requirement, the vehicle speed and the battery charge state (column 1, lines 38-43).

It would have been obvious to one skilled in the art at the time the invention was made to use the battery remaining charge computing means disclosed by Bader on the engine control apparatus disclosed by Katayose et al. for the purpose of providing a method for automatically controlling a parallel hybrid drive, in which the power of an internal combustion engine is supplied in three different ways as a function of current driving parameters; in particular the power requirement, the vehicle speed and the battery charge state.

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application No. 0 072 997 A2 to Katayose et al. in view of U.S. Patent No. 5,846,164 to Harada.

Katayose et al. disclose the construction of an engine control apparatus as described above.

However, it fails to disclose a coolant temperature detector for detecting a coolant temperature for the engine (claim 4), and an intake air temperature detector for detecting an intake air temperature for the engine (claim 5).

Harada teach the use of coolant and intake air temperature detectors on an apparatus for the purpose of controlling negative pressure for a brake booster in a diesel engine.

It would have been obvious to one skilled in the art at the time the invention was made to use the temperature detectors disclosed by Harada on the engine control apparatus disclosed by Katayose et al. for the purpose of controlling negative pressure for a brake booster in a diesel engine.

Response to Arguments

4. Applicant's arguments filed May 30, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that Katayose et al. is not directed to an engine control system for a hybrid vehicle, is directed to preventing a reduction in the durability of a starter, and that the connection of a clutch (power transmission means) is observed; it should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In re Danly, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In Hewlett-Packard Co v Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does." (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original). That is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim, regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention.

5. In response to applicant's argument that the claimed invention use a battery for a hybrid vehicle, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use

must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Allowable Subject Matter

6. Claims 2 and 3 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art does not teach the construction of an engine control system for a hybrid vehicle having an internal combustion engine and an electric motor as driving force sources, for permitting stopping and starting of said engine in accordance with predetermined drive conditions, comprising:

a brake booster for receiving negative pressure supplied by an operation of said engine;

a pressure detector for detecting a pressure supplied to said brake booster;

throttle-opening-state detector for detecting a throttle opening state; and

engine-operation enable/disable determining device for determining whether or not to operate said engine when said engine is stopped, based on said throttle opening state detected by said throttle-opening-state detector and said pressure detected by said pressure detector,

wherein said engine-operation enable/disable determining device that:

<u>permits said engine to operate when said throttle opening state is other than completely closed;</u>

<u>causes said engine to stop when said throttle opening state is completely closed and said pressure detected by said pressure detector is equal to or lower</u>

than a predetermined negative pressure which is equal to or lower than an atmospheric pressure; and

permits said engine to operate when said throttle opening state is completely closed and said pressure detected by said pressure detector is closer to the atmospheric pressure than the predetermined negative pressure, which is equal to or lower than the atmospheric pressure.

7. Dependent claim 3 is considered allowable by it's dependence on independent claim 2.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Néstor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
August 4, 2002

NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800